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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,944	09/22/2003	Klaus Brockel	A 91833	5714

7590

02/10/2006

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EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/664,944	Applicant(s) BROCKEL ET AL.	
	Examiner Marc Jimenez	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10-15-04, 9-22-03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species C in the reply filed on 11/25/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 4 and 5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-3 and 6-12** are rejected under 35 U.S.C. 102(b) as anticipated by Hisashi (JP-58155114) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hisashi in view of Fujikawa (JP-407097969A).

Regarding claims 1 and 10, Hisashi teaches a method for making a cylinder for an internal

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combustion engine, the method comprising the steps of: casting a cylinder housing **1** having a cylinder wall **2** delimiting an interior space for accommodating a reciprocating piston, forming a control window **4** into the cylinder wall **2** with a multi-step machining of the cylinder wall which includes a first step of forming a breakthrough in the cylinder wall utilizing a chip removing work tool **5** having a rotating primary movement (it is noted that when the tool initially breaks through the wall of the cylinder, this initial breakthrough of the wall is considered a “first step” because the tips of the tool initially make a smaller sized hole), and a second step of widening the breakthrough to a wanted dimension of the control window (it is noted that as the tool **5** is forced deeper into the wall of the cylinder housing, the hole becomes larger and therefore the “second step of widening” occurs after the initial “breakthrough” step as described above. Note that this is a similar concept of a drill bit point initially puncturing through the entire wall of a sheet of metal, as the drill bit is further forced through the sheet metal, the larger diameter of the drill bit away from the point of the drill bit creates a larger hole.) utilizing a work tool (ie. the same work tool). See for example the top view in figure 2 where the tool **5** has a certain diameter, as the tool **5** is moved towards the wall of the cylinder, the window is broken through by the outer most periphery in contact with the wall as the tool **5** is continually forced through the hole, the hole widens because of the size of the tool **5** diameter. The limitation “a work tool” in the last line of claim 1 does not necessarily mean that there are two tools used, as currently written in the claim, the same tool could be used.

Alternatively, Fujikawa teaches a two step machining process to create a bore wherein a preliminary hole **23** is formed and then a larger diameter hole **26** is formed by another tool.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Hisashi with a second step of widening the breakthrough to a wanted dimension, in light of the teachings of Fujikawa, in order to design and modify a hole to have the required final dimensions.

Regarding claim 2, Hisashi teaches a flow channel 3.

Regarding claims 3 and 6-10, Hisashi teaches the invention cited with the exception of having a second work tool. However, Fujikawa teaches a second work tool to form a larger diameter hole 26. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Hisashi with a second work tool, in light of the teachings of Fujikawa, in order to create the desired larger diameter hole in the workpiece. The movement of the tool of Hisashi as shown in figure 2 is linear with respect to the axis of the tool and the direction the tool is moving.

Regarding claims 10-12, the tool of Hisashi is a side-milling cutter having a width corresponding to the wanted height of the control window.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. **Claims 13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisashi in view of Fujikawa as applied to claim1 above, and further in view of Matsuura et al. (US6041499).

Hisashi/Fujikawa teach the invention cited with the exception of the second step being carried out utilizing a contact machining operation.

Matsuura et al. teach using a contactless machining operation to form holes (col. 6, lines 15-19).

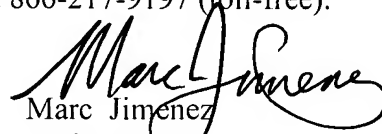
Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Hisashi/Fujikawa with a contactless machining operation, in light of the teachings of Matsura, in order provide an extremely high precision working to be performed (col. 2, lines 40-44).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is (571) 272-4530. The examiner can normally be reached on Monday-Friday.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Marc Jimenez
Acting SPE
Art Unit 3726

MJ